Metal injection molding material and metal injection molding

We claim:-

1. A metal injection molding material which contains
   a) from 40 to 70% by volume of metal powder, including at least 50% by weight, based on the total amount of metal, of an iron-containing powder, at least 90% by weight, based on the amount of this iron-containing powder, of the particles of which have an effective diameter of at least 40 micrometers,
   b) from 30 to 60% by volume of a thermoplastic binder and
   c) from 0 to 5% by volume of a dispersant and/or other assistants.

2. A metal injection molding material as claimed in claim 1, wherein at least 90% by weight, based on the amount of the iron-containing powder, of the particles of the iron-containing powder have an effective diameter of at least 50 micrometers.

3. A metal injection molding material as claimed in claim 2, wherein at least 90% by weight, based on the amount of the iron-containing powder, of the particles of this iron-containing powder have an effective diameter of at least 60 micrometers.

4. A metal injection molding material as claimed in claim 1, wherein the total amount of the metal powder contained comprises at least 90% by weight of iron.

5. A metal injection molding material as claimed in claim 1, wherein the thermoplastic binder consists of a mixture of from 50 to 100% by weight of a polyoxymethylene homo- or copolymer and from 0 to 50% by weight of a polymer which is immiscible with the polyoxymethylene homo- or copolymer and can be removed thermally without a residue, or of a mixture of such polymers.

6. A metal injection molding process, wherein a metal injection molding material which contains
   a) from 40 to 70% by volume of metal powder, including at least 50% by weight, based on the total amount of metal, of an iron-containing powder, at least 90% by weight, based on the amount of this iron-containing powder, of the particles of which have an effective diameter of at least 40 micrometers,
   b) from 30 to 60% by volume of a thermoplastic binder and
   c) from 0 to 5% by volume of a dispersant and/or other assistants,

   is shaped by injection molding, the injection molded parts are freed from the binder and said parts freed from the binder are sintered.